

CLAIMS

1. A nickel alloy sputtering target comprising 1 to 30at% of Cu; 2 to 25at% of at least one element selected from among V, Cr, Al, Si, Ti and Mo; remnant Ni and unavoidable impurities so  
5 as to inhibit the Sn diffusion between a solder bump and a substrate layer or a pad.
2. The nickel alloy sputtering target according to claim 1, wherein the nickel alloy is formed by adding at least one element selected from among V, Cr, Al, Si, Ti and Mo to Ni-Cu solid solution.
3. The nickel alloy sputtering target according to claim 1 or claim 2, wherein the solder bump  
10 is a Pb-free Sn solder or a Sn solder.
4. A nickel alloy thin film formed between a solder bump and a substrate layer or a pad, and comprising 1 to 30at% of Cu; 2 to 25at% of at least one element selected from among V, Cr, Al, Si, Ti and Mo; remnant Ni and unavoidable impurities.
5. The nickel alloy thin film formed between a solder bump and a substrate layer or a pad  
15 according to claim 4, wherein the nickel alloy is formed by adding at least one element selected from among V, Cr, Al, Si, Ti and Mo to Ni-Cu solid solution.
6. The nickel alloy thin film formed between a solder bump and a substrate layer or a pad according to claim 4 or claim 5, wherein the solder bump is a Pb-free Sn solder or a Sn solder.
7. The nickel alloy thin film according to any one of claims 4 to 6, further comprising a Cu-Sn  
20 intermetallic compound layer between a solder bump and a substrate layer or a pad.
8. The nickel alloy thin film according to claim 7, further comprising a 0.01 to 5 $\mu$ m Cu-Sn intermetallic compound layer between a solder bump and a substrate layer or a pad.